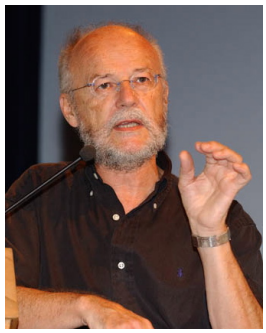
Name, Position, Official contacts *(completed october 2019)*



Jacques POUYSSEGUR
CNRS Research Director, Exceptional Class, Emeritus
Group Leader **"Hypoxia signaling and Cancer Metabolism"**
Institute for Research on Cancer & Aging, Nice (IRCAN), University of Nice
Centre A. Lacassagne, 33 Avenue de Valombrose, 06189 Nice, France,
Scientific Center of Monaco (CSM) 2013-current, https://www.centrescientifique.mc/
Visiting Professor, Kyoto University of Medicine, Kyoto, Japan, 2013-current
e-mail: pouysseg@unice.fr phone: +33 6 8505 4881

Education, scientific training:

Engineer School in Biochemistry,	1966	INSA (University of Lyon)
Doctor es-Sciences (Thesis)	1972	INSA (University of Lyon)

Post-doctorant National Cancer Institute (lab Ira Pastan), Bethesda, USA (1974-1976)
Sabbatical 1989, University San Francisco (lab. H. Bourne) – Sabbatical 1996, MIT (lab R. Weinberg)
Research Group Leader (1978-current) University of Nice, CNRS Institutes (ISBDC, IRCAN)
Director of the CNRS Institute of Signaling, Develop. Biology and Cancer Research – (1997-2007)

Specialization

Control of cell division – Growth factors - Na^+/H^+ antiporters – pH control - MAP kinases – Angiogenesis – Nutrient sensors – Hypoxia signaling – Tumour microenvironment – Metabolism and Cancer.

Honours, Awards:

Prizes: 1989, Savoie Prize (LNCC); 1989, Delahautemaison Nephrology Prize (FRM); 1995, Rosen Cancerology Prize (FRM); 1996, Lounsbery Prize of American and French Academy of Sciences; 1999, Athena and Institut de France Prize; 2001, Leopold Griffuel Cancer Prize (ARC); 2002, Sir Hans Krebs Medal (FEBS); 2008, Carl Cori Lecture Award (Roswell Park, USA)
Member: EMBO; French Academy of Sciences; Europea Academy of sciences. AACR

Research interests

Over the last 35 years, J. Pouyssegur's group has combined genetics and molecular biology to study the mechanisms of action of growth factors and has characterized the major signaling pathways controlling cell proliferation. This team has made a substantial contribution to the areas of glycolytic metabolism, intracellular pH regulation. This team was the first to clone, identify, the human Na/H exchanger and to show that intracellular pH and MAP kinase (ERK1/2) signaling are critical for cell cycle entry.
During the last 15 years the group has turned its interest to another essential growth mechanism : how cells control their nutrient supply. This key process has led them to investigate mechanisms of hypoxia signaling, angiogenesis, nutritional stress and aberrant metabolism in tumours. Currently Pouyssegur's group pursues the analysis, at a fundamental level, of the physiological role for key targets induced by nutritional stress and hypoxia in tumors. The focus is on tumor aberrant glucose metabolism (Warburg effect), glycolysis, mitophagy/autophagy driven by HIF, with a special interest in translational research applied to triple negative breast cancers, glioblastoma, lung and pancreatic cancers. Numerous anticancer targets are in the process of being validated in preclinical mouse models, by this team (carbonic anhydrases CA9, CA12, bicarbonate transporters NBCs, monocarboxylate transporters MCT1, MCT4, their chaperone CD147/Basigin and amino acid transporters LAT1/CD98, ASCT2, xCT). These targets all share a common participation to the 'Darwinian' tumour selection within the oxidative-hypoxic-acidic-nutritional stresses of tumour microenvironment.

Publications - Metrix - Invited Lectures

Nb. Papers in **refereed journals** : **440 -** WoS *h-factor* **123 –** Google Scholar **60750** citations *h-factor* **134**
Number of lectures to scientific meetings **as invited speaker**: **510**

Recent Publications

Le Floch R, Chiche J, Marchiq I, Naïken, Ilc K, Murray C, Critchlow S, Roux D, and **Pouysségur J.** (**2011**) ***Proc. Natl. Acad. Sci*** *(USA).* **108**, 16663-8. CD147 subunit of lactate/H+ symporters MCT1 and hypoxia-inducible MCT4 is critical for energetics and growth of glycolytic tumours.

Parks S., Chiche J, **Pouysségur**, **J**. (**2013**) ***Nature Reviews Cancer*** **13**, 611-23. Disrupting proton dynamics and metabolism for cancer therapy.

Marchiq I, Le Floch, R., Roux, D, Simon, MP, **Pouysségur, J.** (**2015**) ***Cancer Res.*** **75** :171-80. Genetic Disruption of Lactate/H^+ Symporters (MCTs) and their Subunit CD147/BASIGIN Sensitizes Glycolytic Tumor Cells to Phenformin.

Cormerais Y. Giuliano S, Le Floch R, Font B, Durivault J. Tambutté E, …Parks S, and **Pouyssegur J.** (**2016**) ***Cancer Res.*** **76**:4481-92 Genetic disruption of the multifunctional CD98/LAT1 complex demonstrates the key role of essential amino acid transport in the control of mTORC1 and tumor growth**.**

Ždralević M, Brand A, Di Ianni L, Felipe-Abrio B, Durivault J…**Pouysségur*** **J**, Kreutz M. (**2018**) ***J Biol Chem*** **293**(41):15947-61Double genetic disruption of lactate dehydrogenases A and B is required to ablate the 'Warburg effect' restricting tumor growth to oxidative metabolism.

Daher B, Durivault J, Vial V, Tambutté E, Parks S, **Pouysségur J**, Vucetic M**.** (**2019**) ***Cancer Res.*** **79**:3877-90 Genetic ablation of the cystine transporter xCT in PDAC cells inhibits mTORC1, growth, survival and tumor formation via nutrient and Oxidative Stresses.